

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2003P18722WO	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/052957	International filing date (<i>day/month/year</i>) 15.11.2004	Priority date (<i>day/month/year</i>) 11.12.2003
International Patent Classification (IPC) or national classification and IPC H04B10/18, G02B6/34		
Applicant SIEMENS AKTIENGESELLSCHAFT		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																										
<p>4. This report contains indications relating to the following items:</p> <table><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>			<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand		Date of completion of this report																								
Name and mailing address of the IPEA/EP		Authorized officer																								
Facsimile No.		Telephone No.																								

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/052957

Box No. I

Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-6 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 1-5 _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/2-2/2 _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/052957

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																					
1. Statement	<table><tbody><tr><td rowspan="2">Novelty (N)</td><td>Claims</td><td><u>1-5</u></td><td>YES</td></tr><tr><td>Claims</td><td></td><td>NO</td></tr><tr><td rowspan="2">Inventive step (IS)</td><td>Claims</td><td><u>1-5</u></td><td>YES</td></tr><tr><td>Claims</td><td></td><td>NO</td></tr><tr><td rowspan="2">Industrial applicability (IA)</td><td>Claims</td><td><u>1-5</u></td><td>YES</td></tr><tr><td>Claims</td><td></td><td>NO</td></tr></tbody></table>	Novelty (N)	Claims	<u>1-5</u>	YES	Claims		NO	Inventive step (IS)	Claims	<u>1-5</u>	YES	Claims		NO	Industrial applicability (IA)	Claims	<u>1-5</u>	YES	Claims		NO
Novelty (N)	Claims		<u>1-5</u>	YES																		
	Claims		NO																			
Inventive step (IS)	Claims	<u>1-5</u>	YES																			
	Claims		NO																			
Industrial applicability (IA)	Claims	<u>1-5</u>	YES																			
	Claims		NO																			
2. Citations and explanations (Rule 70.7)	<p>1. This report makes reference to the following documents:</p> <p>D1: US 6 141 130 A (IP ET AL), 31 October 2000 (2000-10-31)</p> <p>D2: JAMES R T B ET AL: "Optically tunable optical filter", APPLIED OPTICS, OPTICAL SOCIETY OF AMERICA, WASHINGTON, US, Vol. 34, No. 35, 10 December 1995 (1995-12-10), pages 8230-8235, XP002267107, ISSN: 0003-6935</p> <p>D3: US 2002/136524 A1 (AGHA RIZA NABEEL), 26 September 2002 (2002-09-26)</p> <p>2. Document D1 is regarded as the closest prior art. It discloses (the references in parentheses are to that document) an amplitude equalisation arrangement for wavelength-division multiplexed signals (see the <u>abstract</u>), in which the angle of incidence of the light beam which transmits the WDM signal is modified in relation to the filter (column 5, lines 5-11), achieving a wavelength-dependent filter response with variable parameters in the transmission range.</p>																					

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

The subject matter of independent claim 1 therefore differs from that known disclosure of D1 in that the angle of incidence of the light beam is modified in such a way in relation to the longitudinal axis of a Bragg filter that wavelength-dependent damping with variable pitch is achieved.

- 2.1 The subject matter of claim 1 is thus novel (**PCT Article 33(2)**).

The present invention can therefore be considered to address the problem of achieving a broad-band equalisation of WDM distortion.

- 2.2 The solution to this problem, as proposed in claim 1 of the present application, involves an inventive step (**PCT Article 33(3)**) for the following reasons:

None of the known documents proposes the solution selected by the present invention, namely shifting the angle of incidence of a light beam in relation to the longitudinal axis of a Bragg filter.

- 2.3 Claims 2-5 are dependent on claim 1 and thus also meet the PCT novelty and inventive step requirements.